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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,742	05/10/2005	Martin Honsberg-Riedl	1454.1593	7027

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EXAMINER

BAISA, JOSELITO SASIS

ART UNIT	PAPER NUMBER
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2832

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/521,742	Applicant(s) HONSBURG-REIDEL, MARTIN ET AL.	
	Examiner Joselito Baisa	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/26/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottschalt [3855561] in view of Toshinori et al. [2000356919] and Ryoji[61-167352].

Regarding claims 23 and 24, Gottschalt discloses at least one winding 8; at least one core 1 formed of a ferromagnetic core material, the core having at least two symmetrical core parts which are opposed to each other and separated by gaps d therein to interrupt the magnetic circuit, at least one of the gaps being an air gap, all of the gaps having an essentially equal gap width with in the range of 2.0 mm to 10.0 mm [Col. 3, Lines 16-45, Figure 2].

Gottschalt disclose the instant claimed invention above except for the wire winding formed of a braided wire having 5 to 100 individual wires that are electrically insulated from one another, the individual wires having an individual wire diameter within the range of from 10 μm to 50 μm ;

a heat sink; and a cooling device to cool the wire winding, the cooling device comprising: a film formed of a first polymer-thermally conductive filler composite material, the film being in thermally conductive contact with the wire winding; and a casting compound formed of a second polymer-thermally conductive filler composite material different from the first polymer-thermally conductive filler composite material, the casting compound being in thermally conductive contact with the heat sink.

Toshinori discloses a braided wire having 5 to 100 individual wires that are electrically insulated from one another, the individual wires having an individual wire diameter within the range of from 10 μm to 50 μm [Abstract].

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It would have been obvious to one having ordinary skill in the art at the time of the invention to use a braided wire as taught by Toshinori to the choke coil of Gottschalt.

The motivation would have been for high frequency application of the coil [Abstract].

Kumazawa discloses a heat sink 5; and a cooling device to cool the wire winding, the cooling device comprising: a film 2 formed of a first polymer-thermally conductive filler composite material, the film being in thermally conductive contact with the wire winding 1; and a casting compound 7 formed of a second polymer-thermally conductive filler composite material different from the first polymer-thermally conductive filler composite material, the casting compound 7 being in thermally conductive contact with the heat sink 5 [Abstract].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the heat sink and cooling device of Kumazawa to the structure of Gottschalt and Toshinori.

The motivation would have been to avoid overheating the coil [Abstract].

With respect to claims 41, the claim is a method counterpart of structure of claim 23 above and this method steps therefore are inherent for manufacturing a transformer or choke coil.

Regarding claim 25, Gottschalt discloses the core comprises at least two core parts 3, 7 which are opposed to each other across the gaps **d** and are separated from each other by the gap widths [Col. 3, Lines 43-44, Figure 2].

Regarding claim 26, Gottschalt discloses at least one of the gaps **d** is an air gap [Col. 3, Lines 43-44, Figure 2].

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Regarding claim 27, Gottschalt discloses the gaps **d** all have an essentially equal gap width [see Figure 2].

Regarding claim 28, Gottschalt discloses the wire winding **8** defines an inner region and an outer region, and the gaps **d** of the core are positioned in the inner region [Col. 3, Lines 44-50, Figure 2].

Regarding claim 29, Gottschalt discloses the core **1** is essentially symmetrical [Col. 3, Lines 24-30, Figure 2].

Regarding claim 30, Gottschalt discloses the core **1** is formed of a material that can withstand high frequencies [Col. 1, Lines 38-41].

Regarding claim 31, Toshinori further discloses the wire winding comprises a high-frequency braided wire having a multiplicity of individual wires that are electrically insulated from one another [Abstract].

Regarding claim 32, Toshinori further discloses the individual wires have an individual wire diameter that is selected from the range of from 10 μm to 50 μm inclusive [Abstract].

Regarding claim 33, Toshinori further discloses the wire winding is formed from 5 to 100 individual wires [Abstract].

Regarding claim 34, Gottschalt discloses the component is a choke coil or a transformer [Col. 1, Lines 29-35].

Regarding claim 35, Ryoji further discloses at least one cooling device to cool the wire winding 1, which cooling device 7 is formed from a composite material with at least one polymer material and at least one thermally conductive filler

Régarding claim 36, Ryoji further disclose the cooling device comprises at least one film 2 formed of the composite material which film is in direct, thermally conductive contact with the wire winding 1 [Abstract].

Regarding claim 37, Ryoji further discloses a cooling device to cool the wire winding 1, the cooling device having a first portion 2 formed from a first composite material and a second portion 7 formed from a casting compound, which comprises a second composite material different from the first composite material, both the first and second composite materials being formed from a polymer material and a thermally conductive filler, the second portion being in direct, thermally conductive contact with the wire winding 1 and/or the first portion 2 [Abstract].

Regarding claim 38, Ryoji further discloses an intermediate space is present between the cooling device 7 and the wire winding 1, the intermediate space being filed with a thermally conductive material 2 [Abstract].

Regarding claim 39, Ryoji further discloses the thermally conductive material is at least one of an oil, a paste, a wax and/or an adhesive [Abstract].

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Regarding claim 40, Ryoji further discloses a heat sink 5 connected in a thermally conducting manner to the cooling device 7 [Abstract].

Regarding claims 42, 43 and 44 the recitation of duty cycle and voltage ranges of AC voltage, they cannot be relied upon to distinguish over the combined references because they are seen as intended use (i.e., when the claim is directed to a circuit device, any recitation concerning the input or output signal of such circuit device or environment in which the circuit device is employed is not part of the inventive circuit device). Only structural and functional limitations are given patentable weight.

Response to Argument

Applicant's arguments with respect to claims 23-44 have been considered but are moot in view of the new ground(s) of rejection. Gottschalt discloses gap having an essentially equal gap width with in the range of 2.0 mm to 10.0 mm.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselito Baisa whose telephone number is (571) 272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joselito Baisa
Examiner
Art Unit 2832

jsb


ELVIN ENAD
SUPERVISORY PATENT EXAMINER

19 MAR 2017